

HP Internet Reporter

Technical Specifications

HP Internet Reporter assists users of Hewlett Packard's Internet Advisor for LAN and WAN, and HP ProbeView for Windows, in creating presentation-quality tables and charts from data collected on a wide variety of local and wide-area networks. HP Internet Reporter can be used to evaluate network operation, isolate traffic-related problems, evaluate the impact of hardware or software changes and plan for future growth.

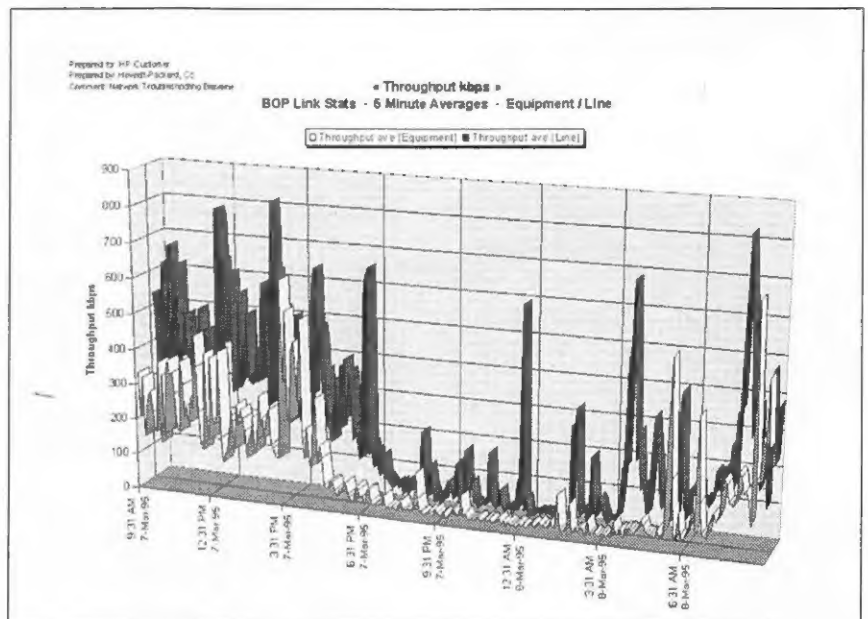
HP Internet Reporter is...

Powerful: HP Internet Reporter takes raw data collected with an HP Internet Advisor for LAN and WAN, or HP ProbeView for Windows, and converts it into presentation-quality tables and charts that always look professional.

Simple: HP Internet Reporter runs as a Microsoft® Excel for Windows add-in, providing a familiar interface with point-and-click ease of use.

Fast: HP Internet Reporter's automated Table Builder and Chart Builder applications eliminate hours of manual data manipulation.

Professional: HP Internet Reporter's tables and charts have a professionally designed common



look that prints accurately on virtually any Windows-supported black- or color-output device.

Flexible: Because HP Internet Reporter is integrated with Excel, advanced data manipulation can be performed and custom charts designed.

Intelligent: HP Internet Reporter's calculated statistics provide additional insight into the network. For example, on frame relay networks, bandwidth utilization can be plotted as a percentage of the CIR for each active DLCI.

Documented: HP Internet Reporter's documentation teaches you how to plan, perform, report on, chart, and interpret your network baselines.

LAN reporting capability

- Ethernet
- Token-ring
- FDDI

WAN reporting capability

- Bit-oriented protocols
HDLC, SDLC, PPP and general
- Frame relay
Original, ANSI, ITUT, NTT, RFC 1490 and general
- X.25
- LAN protocols over WAN
- Complete BERT reporting

HP Internet Reporter benefits users by...

- Quickly isolating traffic-related network problems
- Documenting healthy networks for future reference when problems arise
- Building historical trends by running regularly to anticipate problems and bottlenecks before they occur
- Benchmarking applications and network devices
- Cost-justifying network upgrades (gateways, controllers, bridges, routers, switches, lines etc.)
- Identifying traffic patterns on multiple-segment networks
- Managing virtual circuits and controlling costs on frame relay and X.25 networks

Using HP Internet Reporter

HP Internet Reporter processes data files created by LAN and WAN statistics measurements on the HP Internet Advisor for LAN and WAN, or HP ProbeView for Windows. Just load a statistics data file into Internet Reporter, choose a report format, and watch as your data comes to life in easy-to-read, color-coded tables. Creating charts from your data is just as easy.

Internet Reporter's unique Chart Builder is an extremely powerful charting tool that is remarkably easy to use. When it is activated, you are presented with a complete selection of charts that are compatible with the active data table. In one step, you can select just one or dozens of charts to be built. When your selections are made, you can choose to have your charts presented on-screen and/or at your printer for true unattended operation.

Flexibility for all types of users

Step-by-step documentation, rules-based selection criteria, and predefined chart formats combine to help new users become productive quickly. As users gain experience, they can further leverage HP Internet Reporter's power by quickly and accurately customizing reports, analyzing network statistics, performing what-if scenarios, and benchmarking application and network component performance.

Because all data is in Excel format, power users can use the data in creative ways that may suit special needs. Tables and charts can also be incorporated into other Windows applications, including word processors, desktop publishing, and presentation programs.

Baseline LAN segments and WAN circuits to show historical trends

One of the most effective uses of HP Internet Reporter is to perform recurring scheduled baselines on each LAN segment and WAN circuit in your network. In doing so, you will see trends forming and will gain a much better understanding of traffic patterns and utilization over time.

Each successive baseline provides even more valuable information that you can use to make critical decisions about the design of your network.

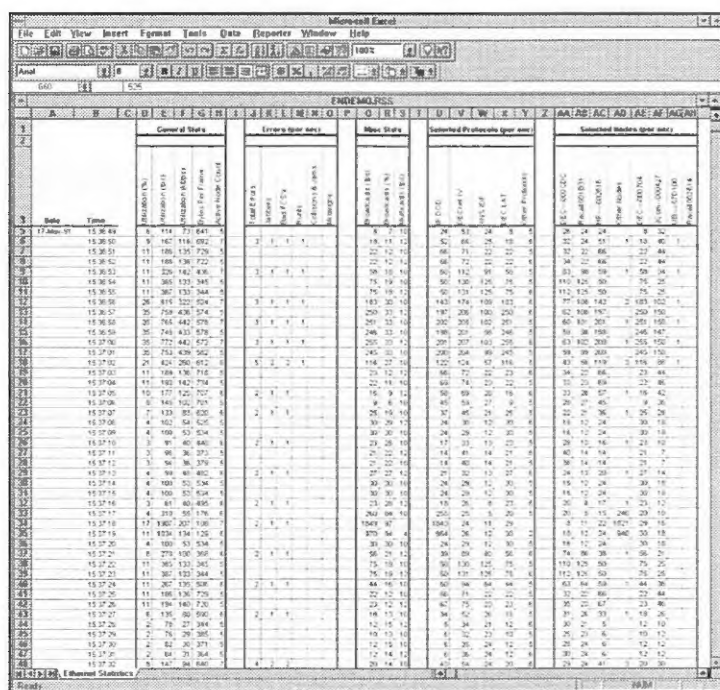


Figure 1. Data collected from your HP Internet Advisor is presented in an easy-to-read format.

Through baselining, LAN segments and WAN circuits can be intelligently reconfigured as traffic patterns change. You will also be able to make more educated decisions about the number and placement of such network components as:

- File, print and archive servers
- Routers, bridges and switches
- Communications gateways
- Host front ends and controllers
- Client-server environments

Benchmark application and network device performance

By configuring hardware-level filtering on an HP Internet Advisor for LAN to monitor specific stations, protocols, segments, or sessions, HP Internet Reporter becomes an invaluable benchmarking tool.

You can isolate errors or analyze traffic patterns to, from, or between specific stations. You can evaluate the impact of hardware or software changes on specific network devices. You can orchestrate tests of various network scenarios and capture the results on disk. After running potentially dozens of tests, the data can be processed by HP Internet Reporter and compared visually on-screen or in print.

Identify the top talkers on the network

HP Internet Reporter also processes Ethernet and token-ring top talkers output from the Advisor. With this data, HP Internet Reporter produces tables and charts on frame and Kbyte counts for the most active 50 stations on the network.

Various charts provide information on transmit and receive frame counts, Kbyte counts, frame ratios,

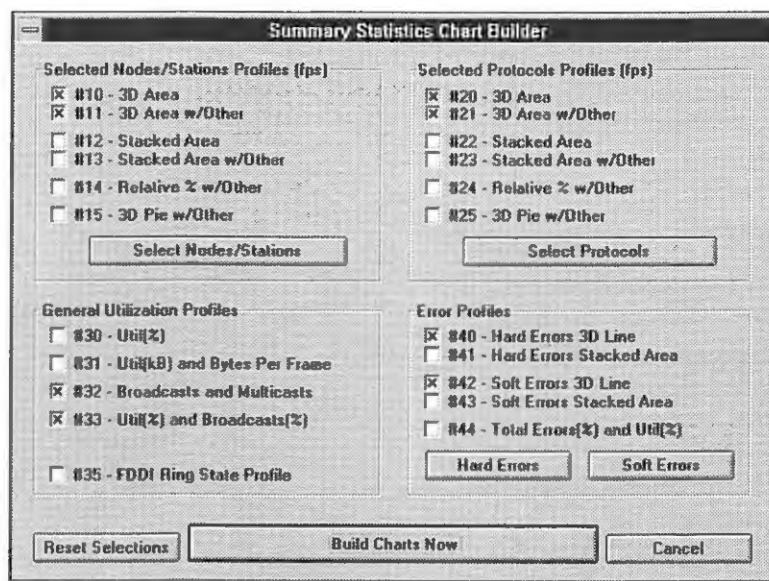


Figure 2. HP Internet Reporter's Chart Builder makes charting simple. Batch operation allows you to walk away while your jobs run.

and Kbyte ratios for quick identification of top users, servers, routers, and applications.

Keeping track of bandwidth consumption allows you to isolate capacity bottlenecks and their traffic-related problems, and to better anticipate and plan for growth.

Take an active approach to WAN bandwidth management

By letting you compare statistics on individual virtual circuits on your frame relay or X.25 network, Internet Reporter lets you proactively manage your bandwidth. Up to 30 individual DLCIs or LCNs can be charted together or separately for bandwidth analysis.

On frame relay networks, Internet Reporter allows you to enter and change the Committed Information Rate (CIR) values for each DLCI. This unique capability can be used for visual simulation of the effects of different line and circuit configurations.

Characterize network performance for each protocol

HP Internet Reporter is perfectly suited for tuning network performance with various protocol stacks. With it, you see which protocols are predominant on your network at different times of the day, characterized in frames, Kbytes and average length.

By analyzing frame length distributions by protocol, you can uncover tuning inefficiencies of software drivers and applications. On IP and Novell networks, you can get even more detailed information on specific IP protocols and ports or Novell types and sockets.

Certify and verify WAN circuits with BERT baselines

Bit error rate testing, or BERT, functions by injecting test patterns into a WAN circuit. These test patterns stress the line and uncover any potential problems that line may have carrying your traffic reliably.

Internet Reporter lets you graph the results of these tests so that you can quickly identify problems and keep records for future reference.

HP Internet Reporter reports on data collected from the most popular HP Internet Advisor measurements

- LAN Summary Stats trends
- LAN Protocol Stats trends
 - 10 major stacks
- LAN Protocol Stats counts
 - 10 major stacks
 - DLL types and SAPs
 - IP protocols and ports
 - Novell types and sockets
- LAN Top Talkers counts
 - Ethernet and token-ring only*
 - frame and KByte counts
- WAN Basic trends
 - All BOP, frame relay, and X.25*
- WAN BOP trends
 - HDLC
 - SDLC frame counts
 - LAN traffic over HDLC
 - LAN traffic over PPP
 - TCP/IP services over HDLC
 - TCP/IP services over PPP
- WAN frame relay trends
 - Original LMI messages
 - ANSI LMI messages
 - ITUT LMI messages
 - NTT LMI messages
 - RFC 1490 LMI messages
 - LAN traffic counts
 - TCP/IP services
- WAN X.25 trends
 - Packet Counts
 - LAN traffic counts
 - TCP/IP services
- WAN BERT trends

LAN Summary Statistics

All LAN summary statistics

- Utilization (% , fps, kbps, ¹ kbps²)
- Bytes per frame
- Broadcasts (fps¹ and %)

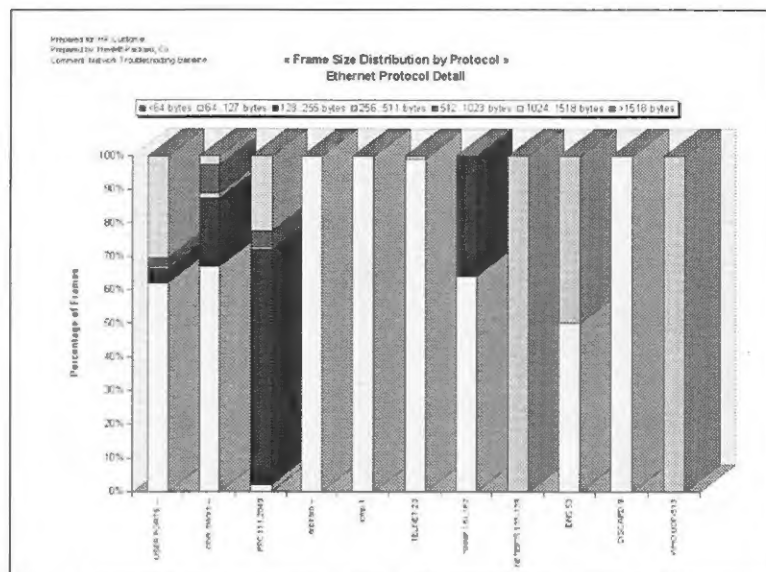


Figure 3. HP Internet Reporter creates vivid presentation-quality output on standard Windows-supported printers

- Multicasts (fps¹ and %²)
 - Active node/station count¹
 - 4 protocols fps (4 user-definable plus "other")
 - 7 nodes/stations fps (7 user-definable plus "other")
- ¹ Ethernet and token-ring only
² FDDI only

Ethernet specific

- Total errors ps
- Collisions and jams, runts, jabbers, bad FCSs, misaligns

Token-ring specific

- Total hard errors (fps and %)
- Ring purge, ring beacon, claim token frames
- Total soft errors (fps and %)
- Line, internal, burst, A/C, abort, lost frame, receiver congestion, frame copy, frequency, token errors
- MAC frames, MAC bytes, circulated tokens
- Local, remote, inbound, outbound source routing

FDDI specific

- Total hard errors (fps and %)
- Beacon and claim frames
- Total soft errors (fps and %)
- Bad FCSs, violations, e-flag set, short preambles, long frames
- LLC frames and non-LLC frames
- Data bytes, tokens, TRT Nsec
- Ring op count, SMT transmit frames, LEM count, LEM reject count

LAN protocol trends

- Kbytes per second, frames per second, bytes per frame
- DLL errors fps
- 10 protocol stacks plus "other" (Kbps, fps, length)

LAN protocol counts

- Total Kbytes, frames, avg length
- Total DLL errors fps
- Comprehensive frame size distribution

LAN Top Talkers statistics

- Ethernet and token-ring only*
- Total frames transmit and receive
- Total Kbytes transmit and receive

WAN Statistics

All WAN statistics

- Frames per second
- Bytes per frame
- Line utilization % (min-ave-max)
- Throughput kbps (min-ave-max)
- Good user frames %
- Errored user frames %
- Bad FCSs and abort frames
- Total T1/E1 errors
- T1 BPVs, frame bit errors, frame slips, ESF CRC errors
- E1 code violations, FAS errors, CRC-4 errors
- 16 DTE and 16 DCE user-defined counters

Bit Oriented Protocol specifics HDLC and SDLC (SNA)

- Info throughput %
- Info frames %
- Non-info frames %
- Info bytes %
- Non-info bytes %
- Info frames, non-info frames, supervisory, receiver ready, receiver not ready, reject, unnumbered, SABM, SNRM, link initializations, UA, disconnect, frame reject, disconnect mode, unnumbered info

LAN over HDLC

- Total IP, IP broadcast, IP SNMP monitor, IP SNMP trap, other IP, Novell IPX, XNS IDP, X.25 level 3, ARP IP, DECnet, DEC LAT, Banyan, DEC LanBridge, 3Com, AppleTalk, SNA, Cisco bridging, other

LAN over PPP

- Total IP, IP broadcast, other IP, Novell IPX, XNS IDP, X.25 level 3, ARP IP, DECnet, AppleTalk, OSI network, Banyan, PPP LCP, password authentication protocol, link quality, IP control, Novell control, XNS control, bridging PDU, other

TCP/IP over HDLC and PPP

- Total IP, IP broadcast, total TCP, TCP telnet, TCP FTP, TCP FTP data, TCP SNMP, TCP Rlogin, other TCP, ICMP, total UDP, RIP, DNS, TFTP, SNMP monitor, SNMP trap, other UDP, other IP, other

Frame relay specifics

All frame relay - individual DLCI stats

- Frames per second
- Bytes per frame
- Line utilization % (min-ave-max)
- Throughput kbps (min-ave-max)
- CIR utilization % (min-ave-max)
- Good frames %
- Errored frames %
- DE %
- FECN %
- BECN %
- DE, FECN, BECN, short frames
- Bad FCSs, abort frames

Original and ANSI frame relay

- DE %, FECN %, BECN %
- Short frames, discard eligibility, FECN, BECN, CLLM, LMI

status, LMI status enquiry, LMI status 0, LMI status enq 0, LMI multicast, reserved 1-15, reserved 1008-18, RFC 1490

ITU-T and NTT frame relay

- DE %, FECN %, BECN %
- Short frames, discard eligibility, FECN, BECN, CLLM, status enquiry, status, reserved 1-15

RFC 1490 frame relay

- DE %, FECN %, BECN %
- Short frames, discard eligibility, FECN, BECN, CLLM, status enquiry, status, orig status enquiry, orig status, LMI multicast, IP, routed, bridged, CLNP, Q.933

LAN over frame relay

- Total IP, IP broadcast, IP SNMP monitor, other IP, Novell IPX, XNS IDP, X.25 level 3, ARP IP, DECnet, DEC LAT, Banyan, DEC LanBridge, 3Com, AppleTalk, SNA, Cisco bridging, RFC 1490, other

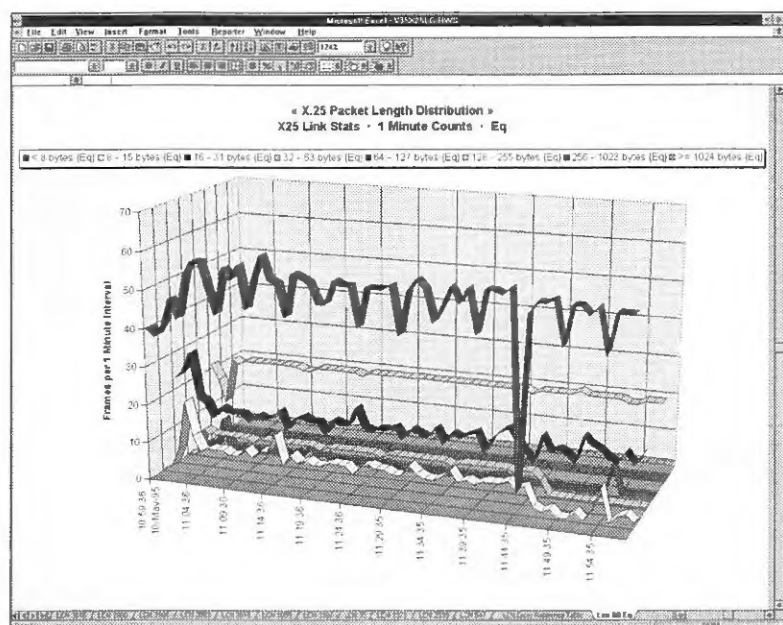


Figure 4. HP Internet Reporter keeps all related tables and charts together in a single tabbed workbook for quick analysis.

TCP/IP over frame relay

- Total IP, IP broadcast, total TCP, TCP telnet, TCP FTP, TCP FTP data, TCP SNMP, TCP RLogin, other TCP, ICMP, total UDP, RIP, DNS, TFTP, SNMP monitor, other UDP, other IP, RFC 1490, other

X.25 specifics

All X.25 - individual LCN stats

- Frames per second
- Bytes per frame
- Line utilization % (min-ave-max)
- Throughput kbps (min-ave-max)

X.25 packet counts

- Data throughput %
- Data packets %
- Non-data packets %
- Data bytes %
- Non-data bytes %
- Rejected calls %
- Data packet, non-data packet, call request, call accept, call reject, clear request, clear confirm, restart request, restart confirm, reset request, reset confirm, interrupt, interrupt confirm,

diagnostic, registration, reject mod 8, receiver not ready mod 8, SABM Comprehensive packet length distribution

LAN over X.25

- Total IP, IP broadcast, IP SNMP monitor, IP SNMP trap, other IP, Novell/XNS, other

TCP/IP over X.25

- Total IP, IP broadcast, total TCP, TCP telnet, TCP FTP, TCP FTP data, TCP SNMP, TCP RLogin, other TCP, ICMP, total UDP, RIP, DNS, TFTP, SNMP monitor, SNMP trap, other UDP, other IP, other

BERT Statistics

- Error free seconds (count and %)
- Bit count and bit errors
- Block count and block errors
- Bit error rate (BERT)
- Block error rate (BLERT)
- Available seconds (count and %)
- Errored seconds (count and %)
- Degraded minutes (count and %)
- Severely err secs (count and %)
- Unavailable secs (count and %)
- Total T1 / E1 errors
- T1 BPVs, frame bit errors, frame slips, ESF CRC errors
- E1 Code violations, FAS errors, CRC-4 errors
- T1 signal loss, AIS, pulse density, frame sync, yellow alarm, B8ZS
- E1 signal loss, AIS, frame sync, yellow alarm, HDB3 detect

HP Internet Reporter charts

HP Internet Reporter provides a wide variety of built-in chart formats that make charting your data extremely flexible and easy. Many charts are customizable, allowing you to chart only the data fields you want.

LAN Summary Statistics

- 6 node/station charts
- 6 protocols charts
- 4 utilization charts
- 2 Ethernet errors charts
- 5 token-ring errors charts
- 5 FDDI errors charts
- Token-ring source routing distribution
- FDDI ring state profile

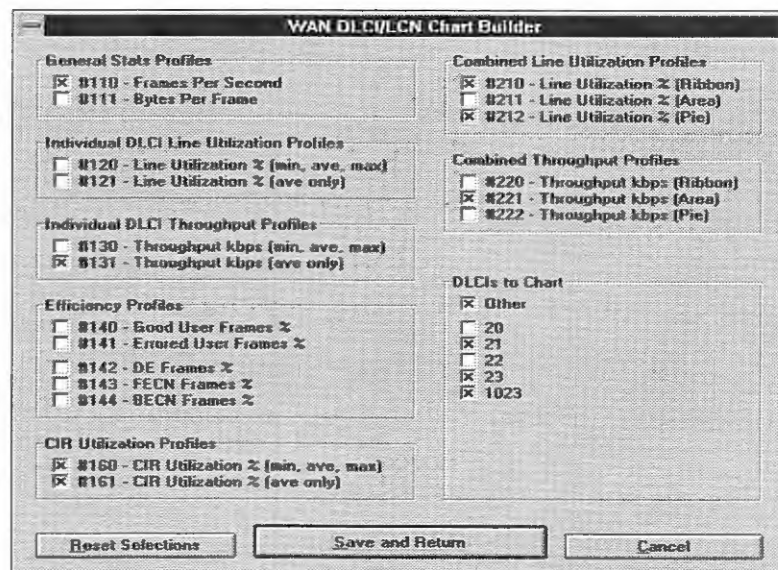


Figure 5. HP Internet Reporter provides custom Chart Builder screens for all major WAN types. All WAN statistics allow you to chart the DCE and DTE sides of the line individually or together.

LAN Protocol Trends

- 3 frame rate charts
- 3 KByte rate charts
- 2 frame length charts
- DLL errors

LAN Protocol Counts

- Frame counts
- 2 frame size distribution charts
- 2 KByte counts charts

LAN Top Talkers Statistics

Ethernet and token-ring only

- Frame Tx/Rx ratios, counts, and overview
- Kbyte Tx/Rx ratios, counts, and overview

WAN Statistics Charts

- 6 utilization charts
 - 1 HDLC/SDLC utilization
 - 1 X.25 utilization
- 2 general efficiency charts
 - 4 HDLC/SDLC efficiency
 - 5 X.25 efficiency
 - 3 Frame relay efficiency
- 4 error charts
- 1 user-defined counters chart
- 3 LAN protocol distribution
- 3 TCP/IP protocol distribution
- 3 X.25 packet length distribution charts

X.25 LCN Statistics Charts

- 6 combined LCN utilization
- 6 individual LCN utilization

Frame relay DLCI Stats Charts

- 6 combined DLCI utilization
- 6 individual DLCI utilization
- 5 individual DLCI efficiency
- 2 individual DLCI CIR util

BERT Charts

- 3 line quality charts
- 2 error charts
- 5 G.821 efficiency charts

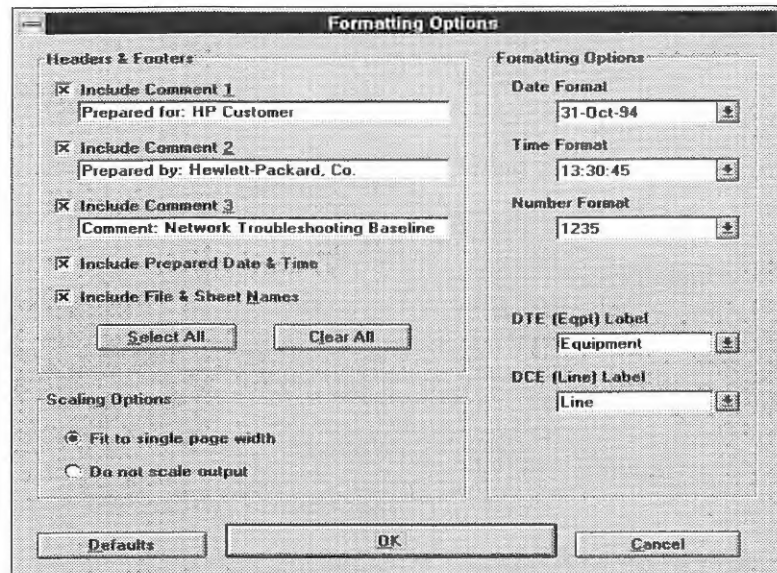


Figure 6. All formatting options are presented on a single, easy-to-read screen, including cell formats, headers, footers, and labels.

Customizing tables and charts

Table and chart output can be further customized with the following options:

- Up to 3 comment line headers
- Prepared date and time footer
- Filename and sheetname footer
- Automatic page numbering for tables
- Automatic page scaling
- Automatic or manual chart y-axis scaling

International awareness

HP Internet Reporter recognizes the international settings of your Windows environment. The following date, time, and number format options are presented according to your country settings:

- 3 date formats per country
- 4 time formats per country
- 4 number formats per country

Special WAN options

In addition to the regular table and chart formatting options, WAN output can be further customized with the following options:

- Renaming of DTE (Eqpt) and DCE (Line) labels
- Ability to enter and change frame relay CIR rates for each DLCI
- Ability to plot DCE and DTE statistics together or on separate charts

System Requirements

HP Internet Reporter can be run on any Intel486 or Pentium™ CPU. Microsoft® Windows 3.1 and Microsoft Excel Version 5.0 are required and must be purchased separately from your software vendor.

We recommend using as fast a computer as possible with at least 16MB RAM. To enhance printing speed, install at least 8MB RAM into your printer. PostScript™ printers will generally print several times faster than non-PostScript printers.

Minimum system configuration

- Intel486-class CPU
- 3.5" 1.44MB compatible diskette drive
- 40MB free disk space for Windows, Excel, and HP Internet Reporter
- Color VGA display
- 8MB RAM (16 MB or more recommended)
- Windows-compatible mouse or pen
- MS-DOS® 5.0 or higher
- Microsoft Windows 3.1
- Microsoft Excel 5.0 for Windows (English version)
- Windows-supported output device (HP LaserJet printer or DeskJet color printer recommended)
- HP ProbeView for Windows software revision B.00.01 or greater
- Internet Advisor for LAN system software revision A.07.00 or greater
- Internet Advisor for WAN high speed system software revision A.02.00 or greater (A.02.01 required for LAN or TCP/IP over WAN)

Ordering Information

HP J2531A:

Internet Reporter for LAN revision B.04.00

HP J3306A:

Internet Reporter for WAN revision B.04.00

HP J3307A:

Internet Reporter for LAN and WAN revision B.04.00

HP J2531U:

Internet Reporter for LAN revision B.04.00 (upgrade from B.03.xx)

HP J3307U:

Internet Reporter for LAN and WAN revision B.04.00 (upgrade from B.03.xx)

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Microsoft is a U.S. registered trademark of Microsoft Corporation

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Pentium is a U.S. trademark of Intel Corporation

Postscript is a trademark of Adobe Systems Incorporated which may be registered in certain jurisdictions

HP Sales and Support Offices

For more information on Hewlett-Packard Test and Measurement products, applications or services please call your local Hewlett-Packard sales offices. A current listing is available via Web through AccessHP at <http://www.hp.com>. If you do not have access to the internet please contact one of the HP centers listed below and they will direct you to your nearest HP representative.

United States:

Hewlett-Packard Company
Test and Measurement Organization
5301 Stevens Creek Boulevard
Building 51L-SC
Santa Clara, CA 95052-8059
1 (800) 452-4844

Canada:

Hewlett-Packard Canada Ltd.
5150 Spectrum Way
Mississauga, Ontario
L4W 5G1
(905) 206-4725

Europe:

Hewlett-Packard
European Marketing Centre
P.O. Box 999
1180 AZ Amstelveen
The Netherlands

Japan:

Yokogawa-Hewlett-Packard Ltd.
Measurement Assistance Center
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Data Subject to change

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HP Internet Reporter Demonstration Disk


The HP Internet Reporter assists users of HP Network Advisor and Internet Advisor protocol analyzers in creating presentation-quality tables and charts from data collected on Ethernet, Token-Ring, and FDDI networks. HP Internet Reporter can be used to evaluate network operation, isolate traffic-related problems, evaluate the impact of hardware or software changes, and plan for future growth.

Enclosed is an Internet Reporter PC Demonstration disk. The following Internet Reporter applications can be ordered. Contact your nearest HP sales representative to order the HP Internet Reporter.

- J2531A Internet Reporter for LAN
- J3306A Internet Reporter for WAN
- J3307A Internet Reporter for LAN and WAN

To run the Internet Reporter PC Demonstration

To run the PC demo, you need a PC loaded with MS-DOS® 5.0 and Microsoft Windows® 3.1 or greater software. Follow the instructions below:

1. Insert the PC demo disk into your A (or B) drive.
2. From Program Manager, select File, Run and then type A:\INSTALL .

MS-DOS® and Windows® are registered trademarks of Microsoft Corporation.



Enabling the Built in Mouse in DOS and Windows

To enable the mouse, please verify these lines exist in the following programs.

Procedure: To enable your mouse to work in DOS programs:

1. Exit to DOS.
use the editor provided with DOS:
at the DOS prompt, type `edit c:\autoexec.bat` (press Enter)
Edit your `autoexec.bat` file to include these statements:
`cd \mousedrv`
`lh \mousedrv\newxld -i11`
`obmous11.com`
`cd\`
2. Save this edited file.
3. Exit the DOS editor and reboot your Internet Advisor.

Procedure: To enable your mouse to work in DOS programs:

1. Exit to DOS.
use the editor provided with DOS:
at the DOS prompt, type `edit c:\batch\autoexec.wan` (press Enter)
Edit your `c:\batch\autoexec.wan` file to include these statements:
`cd \mousedrv`
`lh \mousedrv\newxld -i11`
`obmous11.com`
`cd\`
2. Save this edited file.
3. Exit the DOS editor and reboot your Internet Advisor.



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Procedure: To enable your mouse to work in WINDOWS programs:

1. Exit to DOS.
use the editor provided with DOS:
at the DOS prompt, type `edit c:\windows\system.ini` (press Enter)
Edit your `c:\windows\system.ini` file to include this statement:
`mouse.drv=c:\mousedrv\obmous11.drv`
2. Save this edited file.
3. Exit the DOS editor and reboot your Internet Advisor.